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TWO NEW SPECIES OF MARINE ALGAE FROM BRIDGEPORT, CONNECTICUT.

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FOR some years past, both marine and fresh water algae have been so persistently sought for in the waters of Bridgeport and vicinity that additions, even to the local list, are not now very frequent. It is a source of some satisfaction, therefore, to be able to report the two following species, which seem to be quite new and certainly have some interesting peculiarities. Perhaps no species of *Hydrocoleum* has heretofore been reported from still water (See Gomont's *Monographie des Oscillariées*).

The only stations in which the two plants have as yet been found, though carefully sought for elsewhere, are in the same marsh and only a few rods apart.

Hydrocoleum majus, n. sp. Stratum dark aeruginous. Sheaths agglutinated, forming mostly an amorphous, gelatinous, diffuent mass, from which the outer extremities of the trichomes project, naked or enveloped in broad ragged sheaths, or the trichomes escape entirely and become independent. Trichomes aeruginous, not contracted at the nodes, $25-30\mu$ in diameter; articles 5-10 times shorter than the diameter of the trichome ($3-6\mu$ long); dissepiments granulated; apex attenuate-truncate; apical cell conspicuously calyptrate.

Found in brackish marsh ditches, forming a gelatinous, tubular coating on old stems of *Spartina*, later floating; occurring at Bridgeport, Connecticut, in late spring and early autumn, disappearing in winter and in the heat of summer. Distributed in Collins, Holden and Setchell, *Phycotheca Boreali-Americana*, No. 602.

The writer first collected this plant in May, 1896, and has since observed its appearance regularly in May and September, except in the autumn of 1898, when it failed to appear at all.

As it seems that there are no well-defined sheaths containing a number of trichomes each, it may be doubted whether this plant, notwithstanding its size, should not rather be named *Phormidium majus*, but upon the whole its characteristics seem to accord better with *Hydrocoleum*. Maybe there is no hard and fast line between the two genera.

***Stictyosiphon subsimplex*, n. sp.** Mature fronds from a few millimeters to 12 centimeters in length, hardly reaching one half millimeter in width, simple or very sparingly branched. Occasionally a frond, otherwise simple, has a tuft of very short branches at the summit. Young fronds distinctly articulate. Sporangia (plurilocular? — apparently unilocular) mostly very prominent, often nearly spherical, occurring singly or in groups.

Found at Bridgeport, Connecticut, in a large salt-marsh pool, on *Ruppia maritima*, and only in company with *Ectocarpus subcorymbosus* Farlow, although other species of *Ectocarpus* are growing at the same time on *Ruppia* and other plants in the same pool. It appears in late May or early June and again in autumn. It is, so far as observed, very short-lived, appearing, fruiting and disappearing within a very few days. Although occurring, so far as yet observed, only in association with *Ectocarpus subcorymbosus*, no parasitic or essentially symbiotic relation between the two plants is apparent. It is distributed as No. 630 of the *Phycotheca Boreali-Americana*.

Although this *Stictyosiphon* is apparently more substantial than the *Ectocarpus* with which it is associated, it is in reality much more delicate and extremely impatient of changing conditions. The first collection (made Nov. 14, 1897) was left for future examination in a large porcelain dish with an abundance of water from the pool in which it grew. A day or two later it was found that while the *Ectocarpus* was in prime condition, the *Stictyosiphon*, probably in consequence of the temperature of the room having risen too high, had gone to pieces and utterly disappeared.

EXPLANATION OF PLATE 9. — Figures 1–6, *Stictyosiphon subsimplex*. 1, Several plants on *Ruppia maritima*, which is densely covered with *Ectocarpus subcorymbosus*. 2, Monosiphonous end of frond, with terminal hair. 3, Somewhat older portion of frond, the form of the original cells still showing, though now covered by smaller cells. 4, Portion of mature frond, with sporangia and lateral hairs. 5, Portion of frond with two very prominent sporangia and a lateral hair. 6, Cross section of frond in about the same state as in fig. 4.

Figures 7–8, *Hydrocoleum majus*. 7, Trichome with terminal calyptra. 8, Same, more highly magnified.